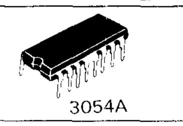
LB1650 monolithic digital IC

CIRCUIT DRAWING No.3069

DUAL BIDIRECTIONAL MOTOR DRIVER


3054A

The LB1650 is a high-voltage, high-current dual bidirectional motor driver. It is designed to accept standard DTL or TTL input logic levels and drive inductive loads such as relays, solenoids, DC motors, stepping motors. It contains 2 complementary push-pull output stages, each of which has an inhibit input pin. The internal logic circuit can be operated from a separate supply to reduce power dissipation.

Application

- Multi DC motor driver.
- Bidirectional motor driver.
- Bipolar stepping motor driver.

Features

- 1A output current capability per channel.
- Wide operating voltage range (4.5 to 36V).
- Inhibit facility.
- Input connectable to TTL, CMOS IC.
- High noise margin.

LB1760 monolithic digital IC

CIRCUIT DRAWING No.3070

DISPLAY ELEMENT DIGIT DRIVER

3064

The LB1760 is a 6-channel transistor array that is composed of NPN transistors and is provided with a strobe pin. It requires very low input current to provide high-current drive.

Features

- Medium breakdown voltage ($V_{CEO} \geqq 20V$)
- High-current drive ($I_C = 320mA$)
- With clamp diodes
- With a strobe pin
- Wide input voltage range ($V_{IN} = -40V$ to $20V$)



LB3500 monolithic digital IC

CIRCUIT DRAWING No.3071

1/8 PRESCALER

3017B

Features

- FM frequency can be divided into C-MOS operating frequency.
- Control pin is provided to inhibit the operation of prescaler when it is not in use.
- If used in conjunction with our PLL synthesizer LC7220, electronic tuning system can be formed.

LB8015 monolithic digital IC

CIRCUIT DRAWING No.3073

SCHMITT CIRCUIT

3001A

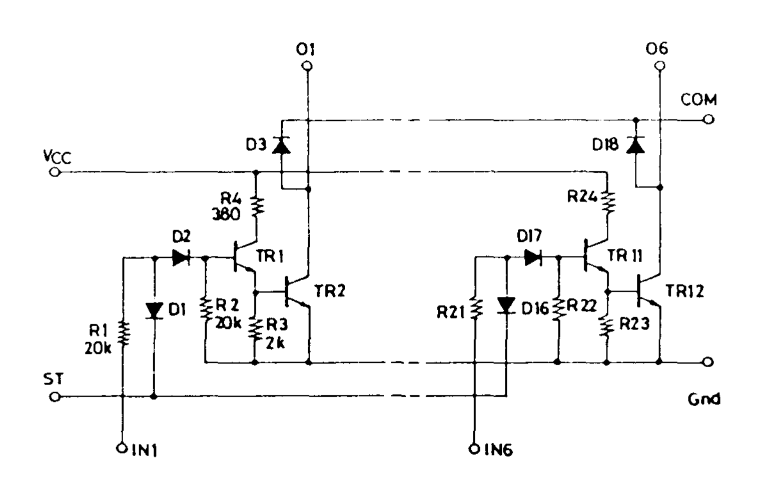
Features

- Large maximum driving current: 200mA
- Wide operating voltage range: 8 to 16V
- Wide operating temperature range: $-20^\circ C$ to $+80^\circ C$
- High input impedance: Approximately 1M ohm
- High input threshold and large hysteresis and noise margin (Adjustable within a certain range)

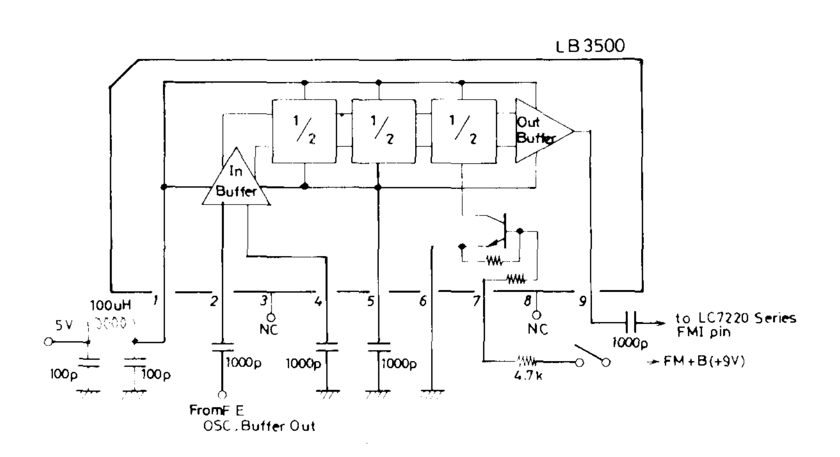
ELECTRONIC TUNING SYSTEMS (monolithic integrated circuit)

Type Number	Page	Case			Circuit Drawing No.	Circuit Functions & Applications	Main Specifications
		Package	Pins	Package No.			
LC7210	222	DIP	28	3012A	4053	PSL^2 Electronic Tuning System	Kit available with controller microcomputer, preset memory
LC7220	222	DIP	42S	3025B	4054	PLL Electronic Tuning System for FM/AM Radio	(U.S.A. version) FM/MW, 18-dot analog display, VDD=5V, fref=7.2MHz, used with LB3500 (1/8 prescaler)
LC7221	222	DIP	42S	3025B	4054	PLL Electronic Tuning Sysetm for FM/AM Radio	(Japan version) FM/MW, 18-dot analog display, VDD=5V, fref=7.2MHz, used with LB3500 (1/8 prescaler)
LC7222	222	DIP	42S	3025B	4054	PLL Electronic Tuning Sysetm for FM/AM Radio	(Europe version) FM/MW, 18-dot analog display, VDD=5V, fref=7.2MHz, used with LB3500 (1/8 prescaler)
LC7223	222	DIP	42S	3025B	4054	PLL Electronic Tuning Sysetm for FM/AM Radio	(Japan version) Same as LC7221, AM1629kHz use
LC7225	222	QIP	64	3026B	4054	PLL Electronic Tuning Sysetm for FM/AM Radio	(U.S.A. version) FM/MW. 18-dot analog display, VDD=5V, fref=7.2MHz, used with LB3500 (1/8 prescaler)
LC7226	222	QIP	64	3026B	4054	PLL Electronic Tuning Sysetm for FM/AM Radio	(Japan version) FM/MW, 18-dot analog display, VDD=5V, fref=7.2MHz, used with LB3500 (1/8 prescaler)
LC7227	222	QIP	64	3026B	4054	PLL Electronic Tuning Sysetm for FM/AM Radio	(Europe version) FM/MW, 18-dot analog display, VDD=5V, fref=7.2MHz, used with LB3500 (1/8 prescaler)
◎LM7000	248	DIP	20S	3021B	5003	Direct PLL Electronic Tuning System	IF counter, high-speed programmable divider capable of direct dividing FM band VCO
◎LC7010	219	DIP	42S	3025B	4045	LM7000-Used Car Stereo Contoroller	(US, Europe version) 6 channel each of FM/(MW+LW), with clock, LED dynamic display
◎LC7030	220	DIP	42S	3025B	4046	LM7000-Used Home Stereo Contoroller	(Japan, US, Europe version) 8 channels each of FM/(MW+LW), with remote control, LED or FLT dynamic display
◎LC7570	235	DIP	42S	3025B	4093	Frequency Display FLT Static Driver	34-segment output, 5 steps, A/D converter, serial data input
◎LC7572	236	DIP	18	3007A	4094	Electronic Tuning Preset Address Display LED Driver	16-dot display, 0 to 19 decimal display, 0 to F hexadecimal display, latch function
◎LC7580	236	QIP	64	3026B	4095	Frequency Display LCD Driver	Static 1/1duty 53 segments, 1/2duty 104 segments, 5-level AD converter 2 pins
LB3500	197	SEP	9	3017B	3071	1/8 Prescaler	PLL electronic tuning system available with LC7220 series, with $\overline{INH}$ pin
LA5700	144	DIP	14T	3005A	2110	Voltage Regulator for SL^2 Tuning System	V_{ref}=8V, V_{DD}=9V for LC7200, LC7250 of SL^2 system, with backup controller

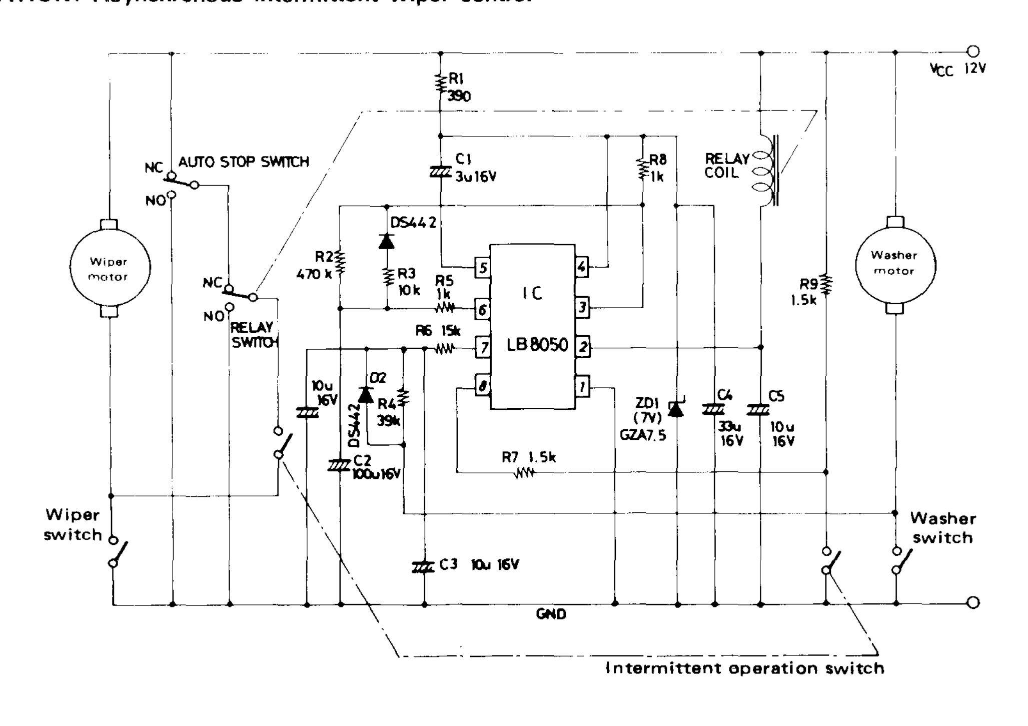
3070: LB1760
EQUIVALENT CIRCUIT

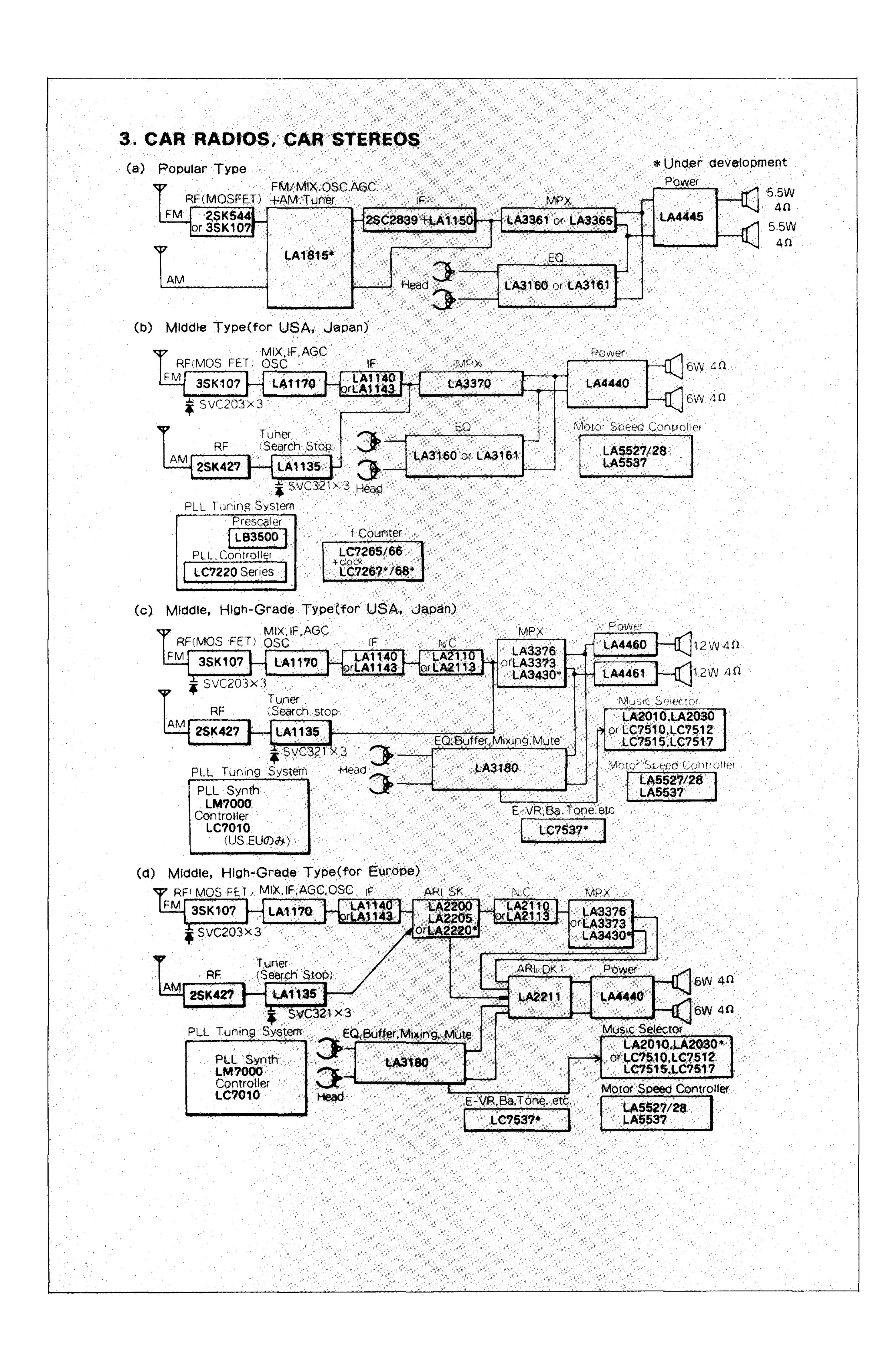


3071: LB3500
APPLICATION CIRCUIT

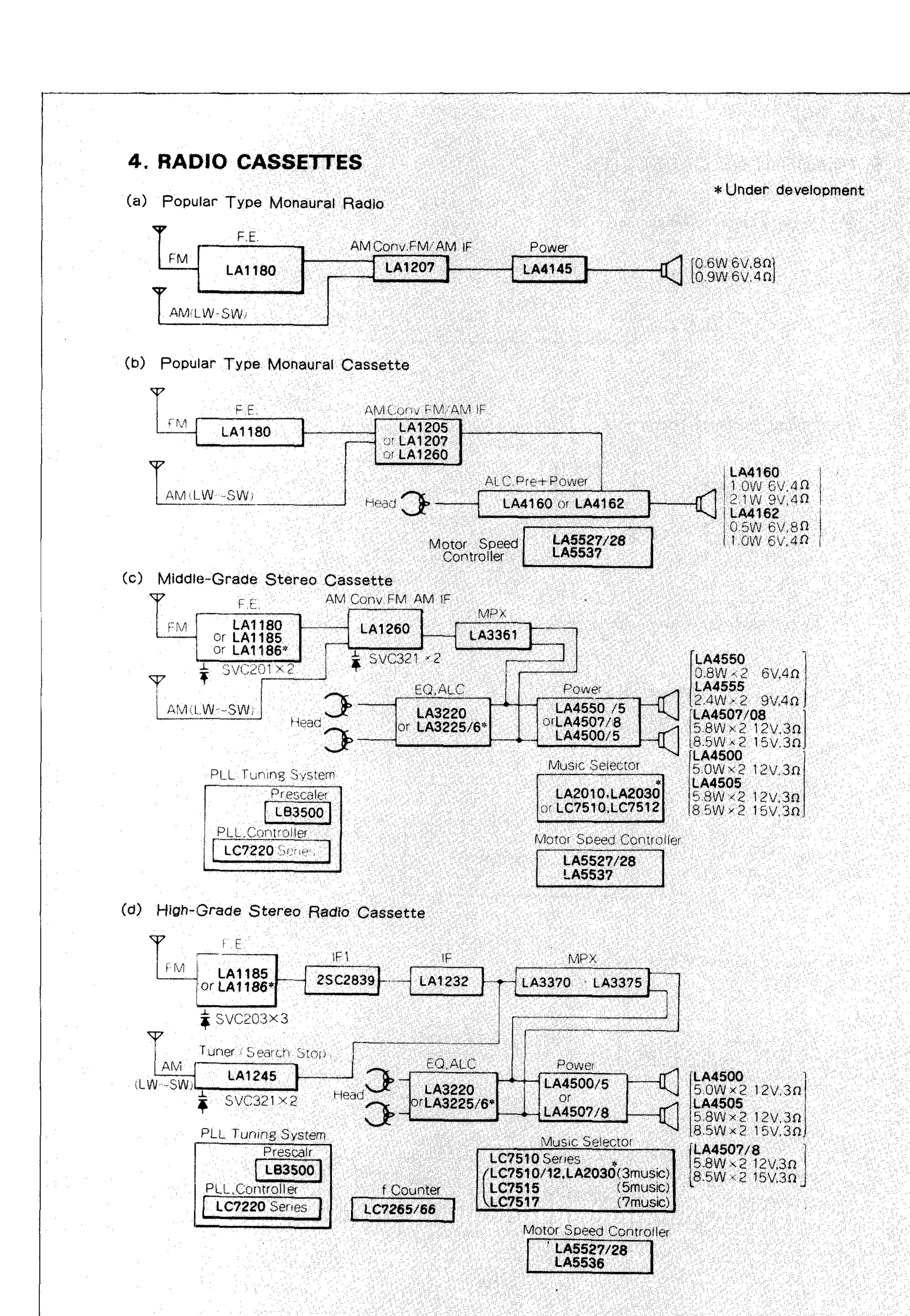


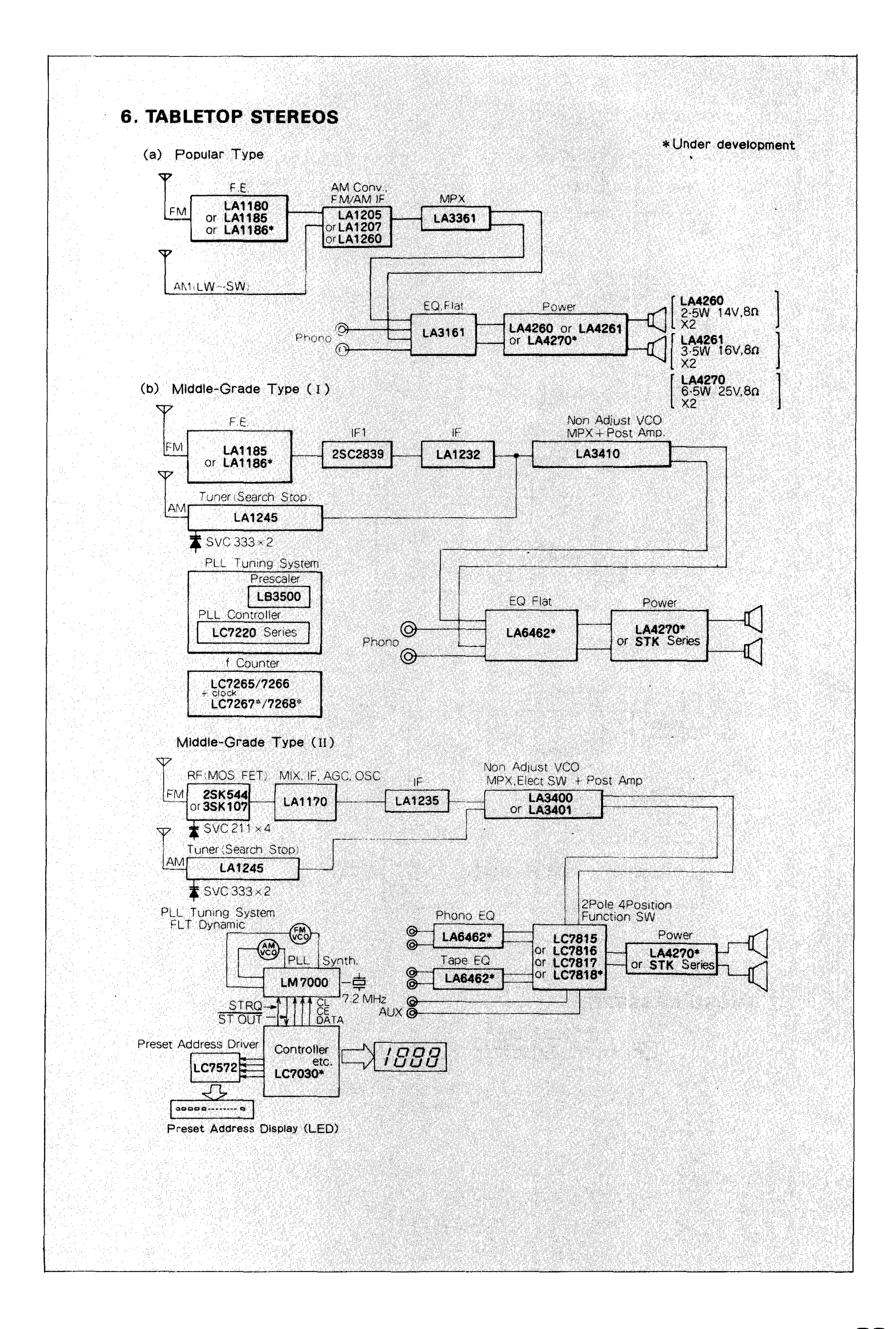
3072: LB8050
APPLICATION: Asynchronous intermittent wiper control



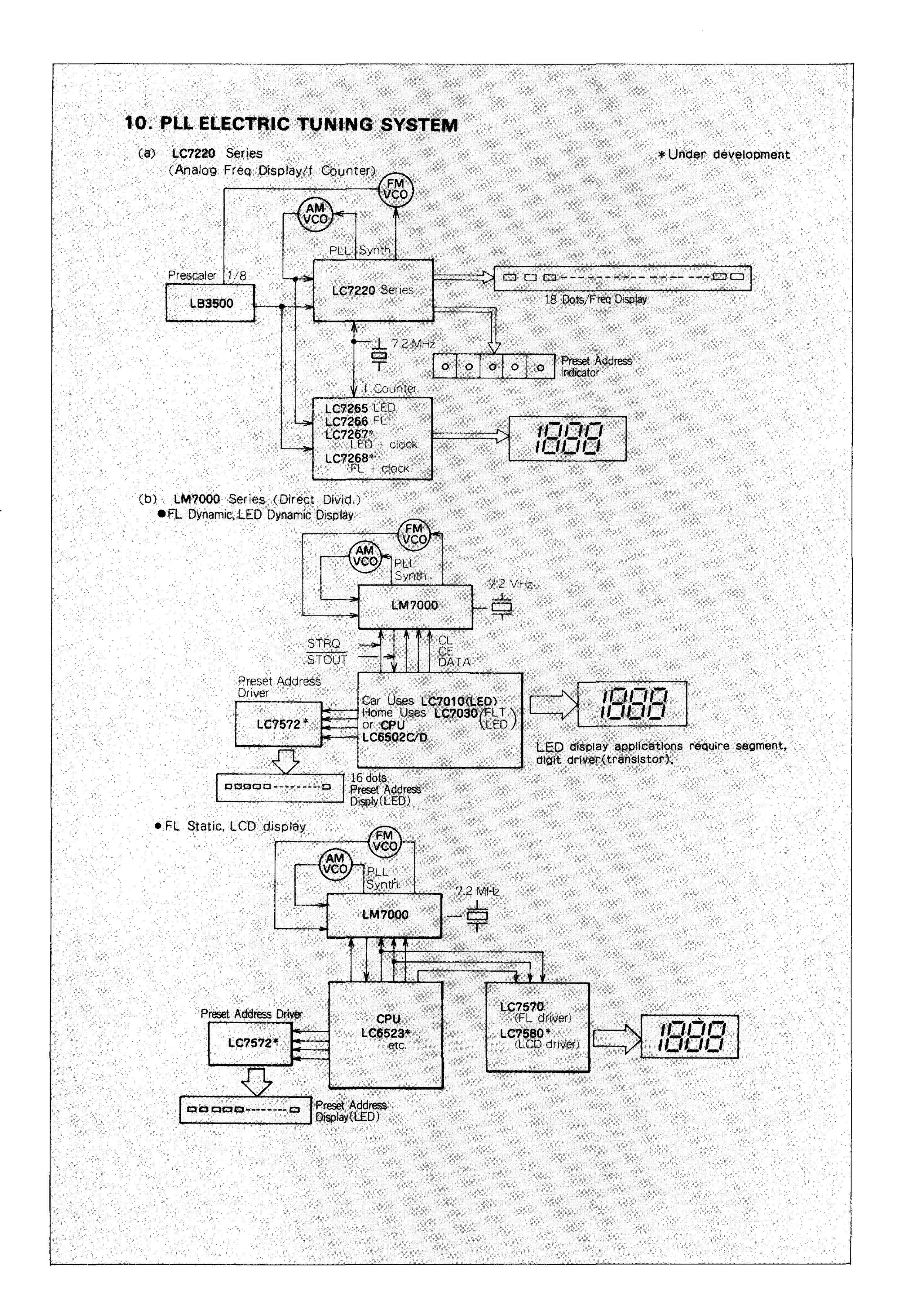

3. CAR RADIOS, CAR STEREOS
(a) Popular Type
* Under development
FM
RF(MOSFET)
2SK544
or 3SK107
FM/MIX.OSC.AGC.
+AM.Tuner
LA1815*
AM
IF
2SC2839+LA1150
MPX
LA3361 or LA3365
EQ
LA3160 or LA3161
Head
Power
LA4445
5.5W
4Ω
5.5W
4Ω
(b) Middle Type(for USA, Japan)
FM
RF(MOS FET)
3SK107
SVC203×3
MIX,IF,AGC
OSC
LA1170
IF
LA1140
orLA1143
MPX
LA3370
Power
LA4440
6W 4Ω
6W 4Ω
AM
RF
2SK427
Tuner
(Search Stop)
LA1135
SVC321×3
Head
EQ
LA3160 or LA3161
Motor Speed Controller
LA5527/28
LA5537
PLL Tuning System
Prescaler
LB3500
PLL Controller
LC7220 Series
f Counter
LC7265/66
+clock
LC7267*/68*
(c) Middle, High-Grade Type(for USA, Japan)
FM
RF(MOS FET)
3SK107
SVC203×3
MIX,IF,AGC
OSC
LA1170
IF
LA1140
orLA1143
N.C
LA2110
orLA2113
MPX
LA3376
orLA3373
LA3430*
Power
LA4460
12W 4Ω
LA4461
12W 4Ω
AM
RF
2SK427
Tuner
(Search stop)
LA1135
SVC321×3
Head
EQ,Buffer,Mixing,Mute
LA3180
Music Selector
LA2010,LA2030
or LC7510,LC7512
LC7515,LC7517
Motor Speed Controller
LA5527/28
LA5537
E-VR,Ba.Tone.etc
LC7537*
PLL Tuning System
PLL Synth
LM7000
Controller
LC7010
(US.EUのみ)
(d) Middle, High-Grade Type(for Europe)
FM
RF(MOS FET)
3SK107
SVC203×3
MIX,IF,AGC,OSC
LA1170
IF
LA1140
orLA1143
ARI SK
LA2200
LA2205
orLA2220*
N.C.
LA2110
orLA2113
MPX
LA3376
orLA3373
LA3430*
AM
RF
2SK427
Tuner
(Search Stop)
LA1135
SVC321×3
ARI DK
LA2211
Power
LA4440
6W 4Ω
6W 4Ω
PLL Tuning System
PLL Synth
LM7000
Controller
LC7010
EQ,Buffer,Mixing, Mute
LA3180
Head
Music Selector
LA2010,LA2030*
or LC7510,LC7512
LC7515,LC7517
E-VR,Ba.Tone. etc.
LC7537*
Motor Speed Controller
LA5527/28
LA5537

4. RADIO CASSETTES





6. TABLETOP STEREOS
* Under development
(a) Popular Type
FM
F.E.
LA1180
or LA1185
or LA1186*
AM Conv.,
FM/AM IF
LA1205
or LA1207
or LA1260
MPX
LA3361
AM (LW~SW)
EQ.Flat
LA3161
Phono
Power
LA4260 or LA4261
or LA4270*
LA4260
2.5W 14V,8Ω
X2
LA4261
3.5W 16V,8Ω
X2
LA4270
6.5W 25V,8Ω
X2
(b) Middle-Grade Type (I)
F.E.
FM
LA1185
or LA1186*
IF1
2SC2839
IF
LA1232
Non Adjust VCO
MPX+Post Amp.
LA3410
AM
Tuner (Search Stop)
LA1245
SVC 333×2
PLL Tuning System
Prescaler
LB3500
PLL Controller
LC7220 Series
f Counter
LC7265/7266
+ clock
LC7267*/7268*
EQ Flat
LA6462*
Phono
Power
LA4270*
or STK Series
Middle-Grade Type (II)
FM
RF (MOS FET)
2SK544
or 3SK107
MIX, IF, AGC, OSC
LA1170
IF
LA1235
Non Adjust VCO
MPX, Elect SW + Post Amp
LA3400
or LA3401
SVC 211×4
AM
Tuner (Search Stop)
LA1245
SVC 333×2
PLL Tuning System
FLT Dynamic
FM VCO
AM VCO
PLL
Synth.
LM7000
7.2 MHz
STRQ
ST OUT
CL
CE
DATA
Phono EQ
LA6462*
Tape EQ
LA6462*
AUX
2Pole 4Position
Function SW
LC7815
or LC7816
or LC7817
or LC7818*
Power
LA4270*
or STK Series
Preset Address Driver
LC7572
Controller
etc.
LC7030*
Preset Address Display (LED)



10. PLL ELECTRIC TUNING SYSTEM
(a) LC7220 Series
(Analog Freq Display/f Counter)
*Under development
FM VCO
AM VCO
PLL
Synth
Prescaler 1/8
LB3500
LC7220 Series
18 Dots/Freq Display
7.2 MHz
Preset Address Indicator
f Counter
LC7265 (LED)
LC7266 (FL)
LC7267*
(LED + clock)
LC7268*
(FL + clock)
(b) LM7000 Series (Direct Divid.)
●FL Dynamic, LED Dynamic Display
FM VCO
AM VCO
PLL
Synth.
7.2 MHz
LM7000
STRQ
STOUT
CL
CE
DATA
Preset Address Driver
LC7572*
Car Uses LC7010(LED)
Home Uses LC7030(FLT.)(LED)
or CPU
LC6502C/D
LED display applications require segment, digit driver(transistor).
16 dots
Preset Address
Disply(LED)
● FL Static, LCD display
FM VCO
AM VCO
PLL
Synth.
7.2 MHz
LM7000
Preset Address Driver
LC7572*
CPU
LC6523*
etc.
LC7570
(FL driver)
LC7580*
(LCD driver)
Preset Address
Display(LED)